

# Electronic Lab Reporting of Blood Lead Results – A Regional View

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Oregon Health Services

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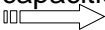
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## State Lead Programs Survey

- Developed by Rick Leiker and J.A. Magnuson
- Distributed Fall 2001 to Region IX and X States – AK, AZ, CA, HI, OR, WA
- Purpose – gather information about state EDI capacities and blood lead reporting  Improvements

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## Why EDI?

- New national requirements for reporting ALL lead tests → huge test volume increase: EDI reduces data entry burden
- Demonstrated ability of ELR to increase reporting **timeliness** and **completeness**
- Merge incoming electronic datasets with existing data systems

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## State Lead Programs Survey

Three parts of survey:

- I. State Blood Lead Information
- II. Lab Specific Information
- Glossary

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## I. State Blood Lead Information

- General reporting info:
  - Number of labs; lead tests/month; reportable lead level
- Electronic Data Interchange (EDI) info:
  - HL7; security; report methods and formats; coding

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## II. Lab Specific Information

For six major (high volume) labs in each state:

- Lowest BLL reported
- # Tests/year (Adult and Children)
- Main method of reporting

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## II. Lab Specific Information - Continued

Info on reported variables:

- ☐ Patient – Name, Tel, Address, County, DOB, Sex, Race, Medicaid, SS#
- ☐ Provider – Name, Tel, Address, County, ID#
- ☐ Occupation – Type, Code, Employer Name, Address, Tel
- ☐ Test Info – Lead Level, Spec Type, Draw Date, Lab Analysis Date

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## Glossary

Glossary - Lead Survey Terms

#	Term	Definition
1	HIE	Health Information Exchange (HIE) - An ANSI approved American National Standard for electronic data exchange in health care. This messaging format enables different computer applications to exchange key data of clinical and administrative information.
2	Firewall	A firewall may be a software application or a hardware device. It controls information flow in and out of a computer system. Firewalls help provide security from hacking attempts when connected to the Internet.
3	Login Password	A form of user authentication in which the user must type in a password when logging onto a system or network.
4	Encryption	Translation of data into a secret code, to enhance security.
5	VPN	Virtual Private Network: A method of creating the effect of an encrypted tunnel between computers. VPNs require some level of user authentication.
6	FTP	File Transfer Protocol: A protocol used to transfer files across the Internet. An FTP server can be configured to control user access to files and enforce password requirements.
7	FIPS	Federal Information Processing Standards: Federal coding standards for identification of states and counties.
8	CDISC	Clinical Data Interchange Standards Consortium: Standard coding system used to identify lab test results and clinical observations.
9	ICD	International Classification of Diseases: Coding system widely used in hospitals.
10	Pharmacy	An application developed within or connected to an organization for drug use, not an individual off-the-shelf purchase.

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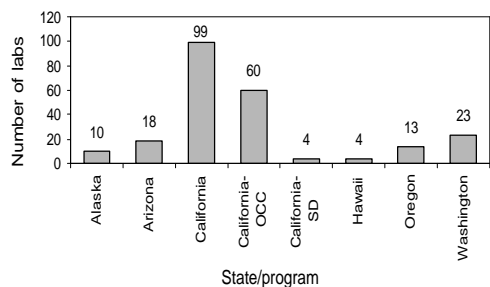
## Sample Data

- ☐ The six states represented eight state lead programs

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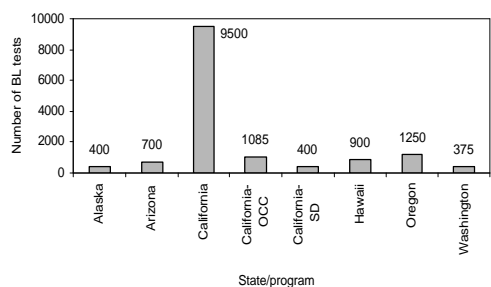
**Number of reporting labs per state/program**



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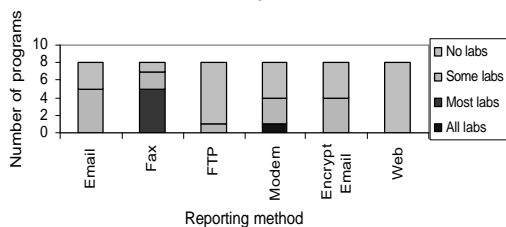
**Number of tests reported per month**



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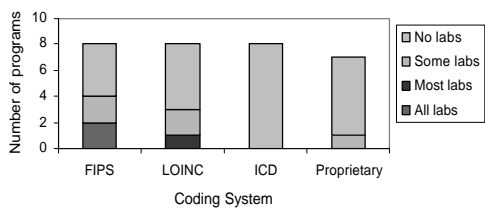
**Program designation of lab reporting methods;  
n=8.**



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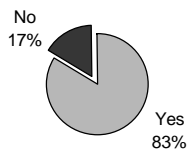
**Coding systems utilized by labs reporting to programs**



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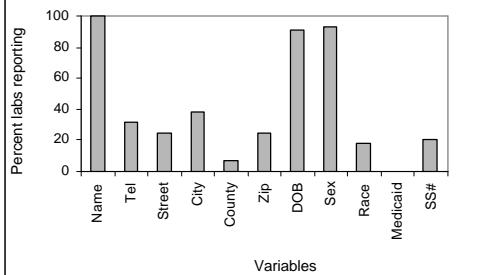
**State ability to receive an HL7 message;**  
**n=6**



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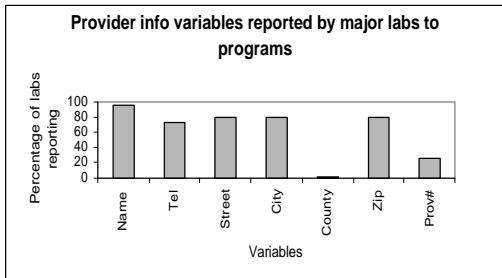
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**Patient info variables reported by major labs to the eight programs**



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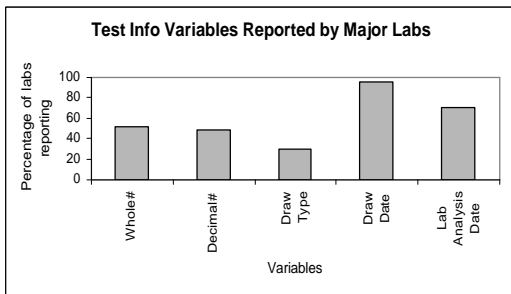
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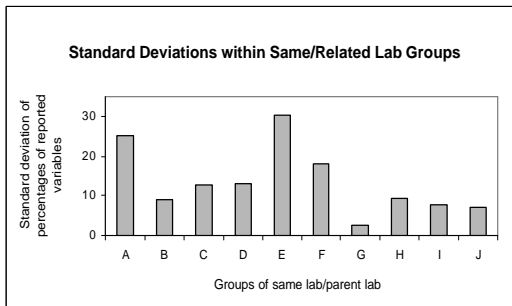
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## Conclusions

- ☐ Lead programs are in good position to pilot state ELR development for other reportable conditions
  - ☐ HL7 readiness
  - ☐ High volume of reports
  - ☐ Basic data capture present
- ☐ Benefits to lead programs: data entry, timeliness, completeness

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## Conclusions – Cont.

- ☐ Only basic info (such as patient name and DOB) reliably present – wide variation in reporting of other variables
  - ☐ Between states
  - ☐ Between labs within a state
  - ☐ Between labs within same parent lab group

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## Actions

- ☐ Committee formed –one/more representative from each state
- ☐ Investigations include:
  - ☐ For individual labs, what are other states receiving, and is this different from my state?
  - ☐ How can we improve the general state of reporting in our region? For example, a coordinated approach to regional labs.
- ☐ Developed regional standard HL7 format

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